Critical Success Factors for the Assessment and Selection of Labor Dispatch Companies

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ABSTRACT

This study aims to explore the critical factors that enable enterprises to assess and select labor dispatch companies (LDP). Through a comprehensive literature review of labor dispatch, this study explores three constructs with nine factors that can be the basis for the development of questionnaire items. The questionnaire adopts fuzzy Delphi and DANP methods to organize the experts' opinions and evaluates the level of suitability of these nine criteria. The DANP (DEAMATEL Based ANP) helps figure out the level of mutual influences among the factors and conducts a ranking of the constructs and criteria based on their level of importance after calculation of the weights. The research results show that the top five critical factors for the enterprises' assessment and selection of labor dispatch companies are: (1) the reputation of the labor dispatch company within the industry, (2) highly skilled professionals, (3) post-sales service, (4) coordination level and the quality of the dispatched employees. This study is expected to help enterprises to select good labor dispatch companies in an effective way and to further safeguard their own interests. This is also useful as it offers suggestions to government for legislating laws and regulations related to dispatched labor. At the same time, by referring to the factors concluded above, a good labor dispatch company can sustain long-term development. Consequently, the rights and interests of their dispatched employees will not be ignored.

Keywords: Atypical Employment, Labor dispatch companies, Critical Key Factors for Success, Fuzzy Delphi, DANP

INTRODUCTION

Over the past decades, labor dispatch has become an emerging industry in Taiwan. The mode of operation of labor dispatch companies is significantly different from normal companies. However, the quality of labor dispatch companies in Taiwan is not consistent. Therefore, this study explores the competences and resources that a successful labor dispatch company should be equipped with in order to offer a reference for the assessment and selection of labor dispatch companies in the future. The study goals of this research are as follows:

1. Understand the characteristics of labor dispatch and explore the relationship between the three parties; labor dispatch companies, dispatched employees, and client companies which receive labor dispatch services.
2. Based on an exploration of the critical key factors for assessing and selecting labor dispatch companies, as indicated in the literature, this study classified constructs and criteria that were used as the basis for the questionnaire design of this research. In addition, this study conducts rankings of the level of importance for each construct and factors in order to provide constructive suggestions for future research and for enterprises, government, and academic circles.

Using the Fuzzy Delphi method, the author concludes an expert evaluation of questionnaire items to (1) examine the level of suitability of the selected critical factors, (2) integrate the Decision Making Trial and Evaluation Laboratory (DEMATEL) method to analyze the mutual influences of the different constructs and criteria, (3) integrate the Analytic Network Process (ANP) method to analyze and discuss the relative importance level of the different constructs and factors, and (4) generate rankings for the importance level of the different constructs and criteria. As a consequence, the researchers can clearly identify the critical key factors for the assessment and selection of labor dispatch companies used by enterprises.

The results indicate that the top five critical factors for assessment and selection of labor dispatch companies are sequentially revealed as: (1) reputation, (2) highly skilled professionals, (3) post-sales service, (4) coordination level, and (5) the quality of the employees of the labor dispatch companies. Through this study, the author expects to help enterprises and employees manage the effective selection of labor dispatch companies to advantageously safeguard their own interests. The acquired conclusions can also help government to legislate laws and regulations related to dispatch labor. This will enable labor dispatch companies to sustain a good reputation in the market and safeguard the interests of the hired employees.

LITERATURE REVIEW

Using a literature review of the employment relationship, and the reasons for adopting a labor dispatch service and critical success factors of labor dispatch as the basis, this study makes inferences for the development of questionnaire items.

Labor Dispatch

Cheng, C. C. (2003) indicated that the contract signing of labor dispatch has an isolation effect in the employment relationship and the actual utilization of labor relationship. The employment relationship is either periodic or non-periodic between dispatched employees and labor dispatch companies. With the consent of employees, labor dispatch companies assign employees to client companies requesting a labor dispatch service and dispatched employees will need to follow and receive the instructions and supervision of the client company when performing tasks. However, the salary payments of the dispatched employees are made by the labor dispatch companies. Labor dispatch companies sign a contract with their client firm, and the benefits generated through the task performance of the dispatched employees belongs to that client firm.

Jean, C. C. (1999) indicated that labor dispatch companies are the legal employers of the dispatched employees. The labor dispatch companies recruit and provide the dispatched workers with salaries, welfare, and education and training, and have the right to promote and layoff dispatched employees. Dispatched employees are the regular employees of labor dispatch companies (LDC); they sign a contract with the labor dispatch company, receive a salary and welfare benefits from the LDC, but perform tasks under the instruction and supervision of client companies. A client company builds up a commercial contract relationship with the LDC, makes payments to the LDC, and then owns the privilege to give orders to the dispatched employees (see figure 1).
The types of labor dispatch can be divided into “regular” and “login” type of employment. Regular employment refers to whether the dispatched employees are dispatched to a client company or not, retaining an employment relationship with the dispatch company. Login type refers to when the employment relationship between the labor dispatch company and the dispatched employees only exists when the dispatched employees accept their mission of dispatch (Cheng, C.C., 1998; Chiu, C.H., 2010).

Reasons for enterprises utilizing a labor dispatch system

Axel, H. (1995) delineated that the three major reasons for enterprises’ adopting an atypical employment mode are: flexible employment, labor demands for professionals, and streamlining manpower services. Other reasons are the selection of future formal employees, decrease in administrative costs, and protection of distinctive competitive human resources. Segal, L. M., and Sullivan, D. G. (1997) suggest that the reasons for the employment of temporary agency staff are to reduce labor costs; to supplement the workforce of absent employees; to provide cover for a sudden increase in the workload of the business; to acquire professionals with specialized skills; and to cover the short-term project-based demands of manpower.

Huang, M.F. (2004) indicated that when selecting a labor dispatch company, semiconductor equipment suppliers take into account five criteria: basic conditions, training competencies, sales competencies, provision of services, and the quality of the labor dispatch company personnel. In addition, the secondary criteria include company size, financial position, organizational culture, coordination records, reputation, the degree of accomplishment for training projects in the past, the level of customer satisfaction with training projects in the past, sales revenue, the market share of the labor dispatch industry, post-sale service, the level of completeness of company administrative policies, service quality, education level, job seniority level, professional technique and language proficiency.

Jean, C. C. (2009) believed that there are three main reasons for enterprises adopting labor dispatch: to reduce human resource costs, increase the flexibility of management, and the avoidance of legislative regulations. Xue, Gui-Long and Chen, Xin-Yi (2009) pointed out that the concerns of enterprises who adopt labor dispatch are: a frequent change of demand for manpower, to supplement non-core positions in the workforce and to reduce the risk of selecting inappropriate talent. On the other hand, when selecting labor dispatch companies, client companies normally take into account the following factors: reputation, service expenses, quality of manpower, employment relationship, level of professionalism of the dispatched workers, coordination level of the administration, and the effectiveness when offering the talent employed by the labor dispatch companies. Moreover, the coordination level of labor dispatch companies is also a decisive factor in the success of the introduction of a labor dispatch system.
Critical Success Factors

Commons, JR (1934), from the perspective of organizational economics, proposed the concept of the limit factor and used it in the process of management and negotiation. Critical success factor (CSF) or key success factor (KSF) was first introduced by Daniel, DR (1961) in his paper, named Management Information Crisis, in which the critical success factors were analyzed using the view of a management information system. Most industries are equipped with three to six critical success factors and managers should pay special attention to those controllable internal and external factors to acquire chances for success.

Ferguson, CR and Dickinson, R. (1982) pointed out that the critical success factors may be constituted by the internal or external factors affecting enterprises, such as events or comprehensive environments. Enterprises should take account of this fact mentioned above either deliberately or to identify critical success factors through the factors of enterprise strategies and operational factors, which lead to the outcome of company performance.

Alazmi, M. and Zairi, M. (2003) believed that to acquire satisfactory performance in some fields, companies should be equipped with so-called critical success factors that would enable companies to have and maintain a competitive edge.

In deciding the necessary information, managers often use three to six determined factors of the industry as a basis to develop the critical success factors of the company. If companies want to strive for success, they have to pay special attention to those critical success factors and have an outstanding performance in these factors (Koai, K. W., Leu, S. H., 2010). In management, critical success factors are those that can bring a competitive edge to operational performance and that are relatively rare elements or attributes. Consequently, these factors should be given top priority in terms of attention (Shen, C. Y., Yang, M. F., Lo, M. C., Lin, U. S., 2010).

The definition of critical success factors will vary across different industries. Reputable labor dispatch companies should be equipped with resources that adhere to the critical success factors of the industry in order to sustain an advantageous and long-running operation.

<table>
<thead>
<tr>
<th>Table 1: Definition of the Nine Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Constructs</td>
</tr>
<tr>
<td>Labor Dispatch CompaniesBasic Conditions</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Service Quality</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td>Human Resource Management</td>
</tr>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Table 1 comprehensively illustrates the critical success factors for the assessment and selection of labor dispatch companies and shows the relevant nine criteria. The nine criteria were regarded as the items for the Fuzzy Delphi assessment questionnaire. Moreover, the nine criteria were classified into three constructs and used the DEMATEL to verify the influences and relationship inside the network of constructs and criteria. In addition, the DANP was used to ascertain the importance level of the three constructs and nine criteria in order to understand the factors emphasized in the assessment and selection of labor dispatch companies.
RESEARCH METHOD

This study first used the Fuzzy Delphi method to confirm the suitability level of the nine factors and then used the DEMATEL to confirm the mutual influence and relationship among the criteria before finally using the DANP to measure the importance level of each factor.

**Fuzzy Delphi Method**

Zadeh, LA (1965) proposed Fuzzy Sets and developed traditional mathematics from binary to multi-valued logic and facilitated membership function in order to depict the features of this concept. Linstone, HA and Turoff, M. (1975) pointed out that the Delphi method is a group decision-making method processed through questionnaires filled by experts anonymously in order to integrate and conclude existing information so as to inspect the importance level of events. Moreover, the Fuzzy set approach helps expert groups to conduct analyses, clarify and communicate, exchange opinions, reach decisions on events with development potential, and to examine whether the questionnaires items are necessary or not.

Xu, Hui-Min, Wei, Wan-Ming and Tsai, Pei-Zhen (2007) pointed out that, based on the suitability level of the items, the Fuzzy Delphi method, subjectively, gives the minimum value $C_\alpha$, the optimum value $A_\alpha$ and the maximum value $O_\alpha$, ranging from 0-10 points of each criteria. Higher values represent a higher level of suitability of the item. The value 6 is the threshold value ($\alpha$-cut) of the expert consensus value $G_\alpha$ for judging the suitability level of each item. Chen, Zhao-Hong (2000) suggested that the double triangular fuzzy numbers first acquire the minimum value $(C^L_\alpha, O^L_\alpha)$, the maximum value $(C^U_\alpha, O^U_\alpha)$ and geometric mean $(C^M_\alpha, O^M_\alpha)$ of $C_\alpha$ and $O_\alpha$ and then apply a grey zone test to testify whether the experts’ opinions reach a consensus. Cheng, Tsang-Bin (2001) pointed out that, through the overlapping situation of two triangular fuzzy numbers, researchers can judge the consensus reached. A grey zone test reveals three types:

1. There is no overlapping for two triangular fuzzy numbers ($O^L_\alpha \leq C^U_\alpha$) and the arithmetic mean is acquired through the geometric mean $C^M_\alpha$ and $O^M_\alpha$ of $C^1_\alpha$ and $O^1_\alpha$.
2. When $O^L_\alpha < C^U_\alpha$, the values of $Z^1 = C^U_\alpha - O^L_\alpha$ and $M^1 = O^M_\alpha - C^M_\alpha$ are first acquired. If the point of intersection of the two triangular fuzzy numbers is equal with the value of the expert consensus in the grey zone $Z^1 < M^1$, the level of membership in the grey zone is $G^1 = \frac{C^M_\alpha \times O^M_\alpha - O^L_\alpha \times C^M_\alpha}{C^U_\alpha \times C^M_\alpha + O^M_\alpha \times O^M_\alpha}$.
3. When $Z^1 > M^1$, the value of expert consensus cannot be converged and will need the conclusion of expert opinion. The value $(C^M_\alpha, O^M_\alpha)$ is attached to offer reference for experts to test once again.
DEMATEL (Decision Making Trial and Evaluation Laboratory)

The DEMATEL can be used to understand the nature of the problem. The matrix and mathematical theories are used to clarify the causal structure and the mutual influence level of two factors. Hsu, C. H., Wang, F. K., and Tzeng, G. H. (2012) suggested that the DEMATEL can enhance the understanding of the problem, and identify projects with high feasibility using the hierarchy structure. The DEMATEL can be applied in various fields, such as marketing strategy, the security of control systems, assessment of online learning (Chiu, Y. J., Chen, H. C., Tzeng, G. H., and Shyu, J. Z., 2006) and financial investments in securities (Lee, W. S., Tzeng, G. H., Guan, J. L., Chien, K. T., and Huang, J. M., 2009). The operation steps are as follows:

**Step 1: Computation Directly Influences Matrix**

$a_{ij}$ is used to represent the influence level of factor $i$ on factor $j$ and the comparison of the strength of the causal relationship of every two factors, which can be graded from 0 to 4. This helps conclude that: $n \times n$ has a direct influence on matrix $A$.

**Step 2: Standardization directly influences matrix $K$, which was acquired by the results of formulas (1) and (2)**

$$b = \min \left\{ \frac{1}{\max_{i \leq j \leq n} \sum_{i=1}^{n} a_{ij}}, \frac{1}{\max_{i \leq j \leq n} \sum_{i=1}^{n} a_{ij}} \right\}, i, j \in \{1, 2, ..., n\} \quad (1)$$

$$K = b \times A \quad (2)$$

**Step 3: Work out the total influence relationship matrix, $I$ is the unit matrix.**

$$T = K + K^2 + K^3 + ... + K^q$$

$$= K(1 + K + K^2 + ... + K^{q-1})(1 - K)(1 - K)^{-1}$$

$$= K(I - K^q)(I - K)^{-1}$$

When $q \to \infty$ and $K^q \to 0$, $T = K(I - K)^{-1}$. (3)

**Step 4: Work out the Central Reliability and the Level of Reasons**

Add every row of matrix $T$ and acquire $d_i$, which represents the level of the effects, directly or indirectly, on other factors. Add every column and acquire $r_j$ that represents the level of influence from other factors. Central reliability $d_i + r_j$ represents the relationship strength among factors; and the level of reasons $d_i - r_j$ represents the strength of the influence cast and being influenced among factors.

$$T = [t_{ij}]_{n \times n}, i, j = 1, 2, ..., n \quad (4)$$

$$d = [d_i]_{n \times 1} = \left[\sum_{j=1}^{n} t_{ij}\right]_{n \times 1}, r = [r_j]_{n \times 1} = \left[\sum_{i=1}^{n} t_{ij}\right]_{1 \times n} \quad (5)$$

Using the DANP (DEMATEL based ANP) to work out the weights

Liu, C. H., Tzeng, G. H., and Lee, M. H. (2012) pointed out that the DEMATEL can clearly describe the problem, establish the problem structure and decompose the problem into a hierarchical network. Combined with the ANP method, the order of importance, in terms of weights of influence, can be acquired. Saaty (1996) proposed a new multi-criteria decision-making method Analytic Network Process (ANP) in order to choose the possible mutual dependent feedback relationship among alternative projects. Subsequently, the different weights of each criterion can be acquired so as to arrange the importance level in order (Ou Yang, YP, Shieh, HM, Leu, JD, and Tzeng, GH, 2008). The computation procedure of the DANP is depicted as follows:
Step1: Establish unweighted matrix.
Total the level of influence of each criterion of every construct of the T matrix acquired from the
DEMATEL and standardize it based on \( d_i = \sum_{j=1}^{n} t_{ij} \) so as to acquire a standardized influence matrix \( T^\ast \) before establishing an unweighted super matrix \( W=(T^\ast)'. \)

Step2: Acquire a weighted super matrix.
Total every column of W and get the total influence matrix \( T_D \) and the standardized influence
matrix \( T_D^\ast \) (in which \( t_{i}^{D} = \frac{t_{ij}^{D}}{d_i} \)). Let \( T_D^\ast \) multiply the unweighted super matrix \( W \) and acquire a weighted
super matrix\( W^\ast = T_D^\ast W \), see formulas (5) and (6).

\[
T_D = \begin{bmatrix}
t_{D}^{1j} & t_{D}^{1j} & \cdots & t_{D}^{1n} \\
t_{D}^{1j} & t_{D}^{1j} & \cdots & t_{D}^{1n} \\
\vdots & \vdots & \ddots & \vdots \\
t_{D}^{nj} & t_{D}^{nj} & \cdots & t_{D}^{nn}
\end{bmatrix}
\]

(5)

\[
T_D^\ast = \begin{bmatrix}
t_{D}^{1j}/d_1 & t_{D}^{1j}/d_1 & \cdots & t_{D}^{1n}/d_1 \\
t_{D}^{1j}/d_i & t_{D}^{1j}/d_i & \cdots & t_{D}^{1n}/d_i \\
\vdots & \vdots & \ddots & \vdots \\
t_{D}^{nj}/d_n & t_{D}^{nj}/d_n & \cdots & t_{D}^{nn}/d_n
\end{bmatrix}
\]

(6)

Step3: Acquire maximized super matrix.
Let the weighted super matrix \( W^\ast \) constantly be multiplied and then acquire a maximized super matrix
and the influence weights of every item of DANP. Finally arrange the importance level of each factor in order.

EMPIRICAL ANALYSIS

From the collected 30 valid questionnaires, the adopted factors were all suited as the basis to
evaluate and select labor dispatch companies.

Factor Selection Based on the Fuzzy Delphi Method
The analytical results of the 30 valid questionnaires show that the experts' consensus value of the
nine factors were all higher than 6. This fact indicates that these nine factors all fit the level of suitability
for the assessment and selection of labor dispatch companies. See table 2:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Minimum Value ( C_i )</th>
<th>Maximum Value ( C_M )</th>
<th>Geometric Average</th>
<th>Consensus Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A_1</td>
<td>2</td>
<td>7</td>
<td>4.63</td>
<td>8.39</td>
</tr>
<tr>
<td>A_2</td>
<td>2</td>
<td>8</td>
<td>5.33</td>
<td>8.97</td>
</tr>
<tr>
<td>A_3</td>
<td>1</td>
<td>7</td>
<td>4.73</td>
<td>8.35</td>
</tr>
<tr>
<td>B_1</td>
<td>1</td>
<td>8</td>
<td>4.85</td>
<td>8.83</td>
</tr>
<tr>
<td>B_2</td>
<td>1</td>
<td>8</td>
<td>5.28</td>
<td>8.64</td>
</tr>
<tr>
<td>B_3</td>
<td>2</td>
<td>8</td>
<td>5.50</td>
<td>9.14</td>
</tr>
<tr>
<td>C_1</td>
<td>2</td>
<td>7</td>
<td>4.77</td>
<td>8.29</td>
</tr>
<tr>
<td>C_2</td>
<td>1</td>
<td>8</td>
<td>4.51</td>
<td>8.52</td>
</tr>
<tr>
<td>C_3</td>
<td>2</td>
<td>8</td>
<td>5.08</td>
<td>8.65</td>
</tr>
</tbody>
</table>
The Verification of the Influence Relationship of the DEMATEL Network

Table 3 shows that these three constructs have a mutual relationship, in which the human resources management construct (C) of a labor dispatch company has the highest level of influence, while the basic conditions of dispatching companies (A) have the least influence on other constructs. Regarding the level of being affected, service quality (B) is the construct most affected and the basic conditions of labor dispatch company (A) is the construct least affected. Regarding the level of centrality, the highest one is service quality (B) and is the most important one among the three constructs from the perspective of the experts. The highest level of reason is the basic conditions (C) of the dispatching companies, which has a comparatively low importance level.

As to the total influence relationship matrix T of the criteria, there is a mutual influence relationship among the nine criteria (as indicated in Table 4). From the D value of each criterion in Table 5, it can be seen that professional technician (C3) has the highest level of influence on other criteria, and the employment relationship (C1) has the least influence on other criteria. In terms of the level of being affected, the one most affected by other criteria is industry reputation (A2) and the one least influenced by other criteria is company size (A1).

Arrange the Importance Level in Order using the DANP Computation of Weights

When selecting and assessing labor dispatch companies, among the rankings of nine criteria, the top five criteria with the highest importance level in order are industry reputation (A2), professional technicians (C3), post-sales services (B3), coordination level (B1) and the quality of dispatched employees (C2). The items with the lowest importance level are employment relationship (C1) and company size (A1).

To conduct an analysis from the perspective of the constructs, two of the five most important criteria belong to the constructs of service quality (B) and human resource management (C). This reveals the fact that companies normally place more attention to construct B and C in the assessment and selection of labor dispatch companies, which is in line with the analytical results of the DEMATEL. Construct A, the basic conditions of the dispatching companies, is ranked at third position among the top three constructs, but its criteria of industry reputation A2 is of the highest importance level and cannot be ignored.

### Table 3: The Total Influence Matrix T and the Relationship of Influence Levels

<table>
<thead>
<tr>
<th>Construct</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>R</th>
<th>D+R</th>
<th>D−R</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.217</td>
<td>1.302</td>
<td>1.265</td>
<td>3.784</td>
<td>3.769</td>
<td>7.553</td>
<td>0.015</td>
</tr>
<tr>
<td>B</td>
<td>1.267</td>
<td>1.285</td>
<td>1.278</td>
<td>3.830</td>
<td>3.922</td>
<td>7.752</td>
<td>-0.090</td>
</tr>
<tr>
<td>C</td>
<td>1.285</td>
<td>1.335</td>
<td>1.259</td>
<td>3.879</td>
<td>3.802</td>
<td>7.681</td>
<td>0.078</td>
</tr>
</tbody>
</table>

### Table 4: The Total Influence Relationship Matrix T of Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>1.059</td>
<td>1.373</td>
<td>1.256</td>
<td>1.324</td>
<td>1.252</td>
<td>1.358</td>
<td>1.167</td>
<td>1.286</td>
<td>1.372</td>
</tr>
<tr>
<td>A2</td>
<td>1.176</td>
<td>1.306</td>
<td>1.268</td>
<td>1.359</td>
<td>1.281</td>
<td>1.401</td>
<td>1.206</td>
<td>1.317</td>
<td>1.393</td>
</tr>
<tr>
<td>A3</td>
<td>1.103</td>
<td>1.318</td>
<td>1.095</td>
<td>1.260</td>
<td>1.200</td>
<td>1.284</td>
<td>1.106</td>
<td>1.227</td>
<td>1.307</td>
</tr>
<tr>
<td>B1</td>
<td>1.183</td>
<td>1.435</td>
<td>1.281</td>
<td>1.255</td>
<td>1.296</td>
<td>1.396</td>
<td>1.211</td>
<td>1.318</td>
<td>1.396</td>
</tr>
<tr>
<td>B2</td>
<td>1.116</td>
<td>1.337</td>
<td>1.204</td>
<td>1.285</td>
<td>1.124</td>
<td>1.314</td>
<td>1.127</td>
<td>1.256</td>
<td>1.328</td>
</tr>
<tr>
<td>B3</td>
<td>1.166</td>
<td>1.420</td>
<td>1.260</td>
<td>1.349</td>
<td>1.283</td>
<td>1.265</td>
<td>1.179</td>
<td>1.365</td>
<td>1.381</td>
</tr>
<tr>
<td>C1</td>
<td>1.078</td>
<td>1.315</td>
<td>1.178</td>
<td>1.253</td>
<td>1.180</td>
<td>1.283</td>
<td>1.014</td>
<td>1.211</td>
<td>1.287</td>
</tr>
<tr>
<td>C2</td>
<td>1.196</td>
<td>1.447</td>
<td>1.303</td>
<td>1.382</td>
<td>1.321</td>
<td>1.397</td>
<td>1.214</td>
<td>1.233</td>
<td>1.423</td>
</tr>
<tr>
<td>C3</td>
<td>1.233</td>
<td>1.475</td>
<td>1.343</td>
<td>1.412</td>
<td>1.347</td>
<td>1.441</td>
<td>1.236</td>
<td>1.375</td>
<td>1.339</td>
</tr>
</tbody>
</table>
### Table 5: The Level of Total Influence Relationship of Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>$D$ (row sum)</th>
<th>$R$ (column sum)</th>
<th>Level of Centrality $D+R$</th>
<th>Level of Reason $D-R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A_1$ Company size</td>
<td>11.448</td>
<td>10.310</td>
<td>21.758</td>
<td>1.139</td>
</tr>
<tr>
<td>$A_2$ Industry Reputation</td>
<td>11.707</td>
<td>12.427</td>
<td>24.134</td>
<td>-0.720</td>
</tr>
<tr>
<td>$A_3$ Service Industry</td>
<td>10.901</td>
<td>11.188</td>
<td>22.089</td>
<td>-0.288</td>
</tr>
<tr>
<td>$B_1$ Level of Coordination</td>
<td>11.771</td>
<td>11.879</td>
<td>23.650</td>
<td>-0.108</td>
</tr>
<tr>
<td>$B_2$ Service Cost</td>
<td>11.092</td>
<td>11.283</td>
<td>22.375</td>
<td>-0.190</td>
</tr>
<tr>
<td>$B_3$ Post-sales service</td>
<td>11.607</td>
<td>12.138</td>
<td>23.746</td>
<td>-0.531</td>
</tr>
<tr>
<td>$C_1$ Employment relationship</td>
<td>10.799</td>
<td>10.461</td>
<td>21.260</td>
<td>0.338</td>
</tr>
<tr>
<td>$C_2$ Quality of Dispatched Employees</td>
<td>11.916</td>
<td>11.528</td>
<td>23.444</td>
<td>0.389</td>
</tr>
<tr>
<td>$C_3$ Professional Technicians</td>
<td>12.199</td>
<td>12.227</td>
<td>24.426</td>
<td>-0.028</td>
</tr>
</tbody>
</table>

### Table 6: The Ordering of Importance Level of Nine Criteria by DANP

<table>
<thead>
<tr>
<th>Ordering</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>$A_2$</td>
<td>$C_3$</td>
<td>$B_3$</td>
<td>$B_1$</td>
<td>$C_2$</td>
<td>$B_2$</td>
<td>$A_3$</td>
<td>$C_1$</td>
<td>$A_1$</td>
</tr>
<tr>
<td>Weights</td>
<td>0.120</td>
<td>0.118</td>
<td>0.117</td>
<td>0.115</td>
<td>0.111</td>
<td>0.109</td>
<td>0.108</td>
<td>0.101</td>
<td>0.100</td>
</tr>
</tbody>
</table>

### CONCLUSIONS AND SUGGESTIONS

In accordance with the statistics from the expert consensus value of the Fuzzy Delphi method's survey, the suitability level of the nine criteria is consistent with the test value and all these criteria can be used as a reference basis in the assessment and selection of labor dispatch companies. With regards to expert opinions, the experts suggested that the information level of the labor dispatch companies is a very important item and can be used as a reference for future studies.

The DEMATEL results show that, in the assessment and selection of labor dispatch companies, the most important construct among these three constructs is the human resources management of dispatching companies, in which the quality of dispatched employees and the professional technicians are emphasized. Furthermore, the influence level of professional technicians on other criteria is the highest, meaning that the top priority factor for the dispatching companies to focus on is professional technicians, followed by service quality, coordination level, service cost and the level of completeness of post-sales service of labor dispatch companies. The above-mentioned factors all have an influence on the service quality of the labor dispatch companies.

The DANP results show that, in the assessment and selection of labor dispatch companies, regarding the order of importance, the top five are, respectively: industry reputation, professional technicians, post-sales service, level of coordination, and the quality of dispatched employees. In terms of levels being affected, the most affected one is industry reputation. Therefore, if labor dispatch companies aspire to have a good industry reputation, the items with a relatively high importance level should be emphasized in order to enhance their competitiveness.

From the perspective of the constructs, for the top five criteria in terms of importance level, two criteria are under the constructs of service quality and human resources management, which are the items emphasized by enterprises when selecting and evaluating labor dispatch companies, and this is in line with the analytical results of the DEMATEL. In addition, among the three constructs, although the basic conditions of the dispatching companies rank in third position in terms of importance, the industry reputation criterion of the construct is the most important one. Therefore, in the assessment and selection of labor dispatch companies, industry reputation or previous coordination experience are factors firstly considered.

The questionnaires in this study were distributed to professors and scholars of academia, the directors of human resource departments of client companies, labor dispatch companies and government experts. The three parties and governmental departments offer their suggestions as follows.
(1) Companies: in the assessment and selection of labor dispatch companies, nine criteria should be referred to. For example, the completeness level of cases, the quality of post-sales service and the quality of the dispatched employees, which all have an effect on the industry reputation of dispatching companies. At the same time, when the cost factor is taken into account, the quality of the dispatched employees, the task completeness level and the satisfaction level towards the tasks should also be considered in order to better utilize company resources.

(2) Dispatched employees: Dispatched employees should compare the image of the labor dispatch companies, levels of salary and the welfare system in order to select a good and qualified labor dispatch company to better safeguard their interests when possibly confronted with occupational problems and other relevant aspects.

(3) Labor dispatch companies could refer to expert opinion and spread basic information on the welfare and salary system and other reward and punishment regulations of client companies. They could also establish an online platform to allow companies and dispatched employees to gain quick access to related information.

(4) Government: The Government can enact labor dispatch laws and regulations into formal legislation. They can take into account the evaluative results of advantageous labor dispatch companies in order to prohibit illegal labor dispatch companies. In addition, governmental departments can enact specific laws to regulate the activities and behavior of labor dispatch companies in order to ensure that dispatch and client companies follow the regulations and take on the responsibility of being labor dispatch employers. This will safeguard the interests of the three parties mentioned above when any problems occur.

Research in the future could take dispatched employees as the research subjects and, combined with the perspectives of dispatched employees and the practical experience of relevant parties, can study how dispatched workers can make a good selection of an advantageous labor dispatch companies. Therefore, dispatched employees can be empowered with one more layer of guarantee in terms of the protection of their interests.

REFERENCES


